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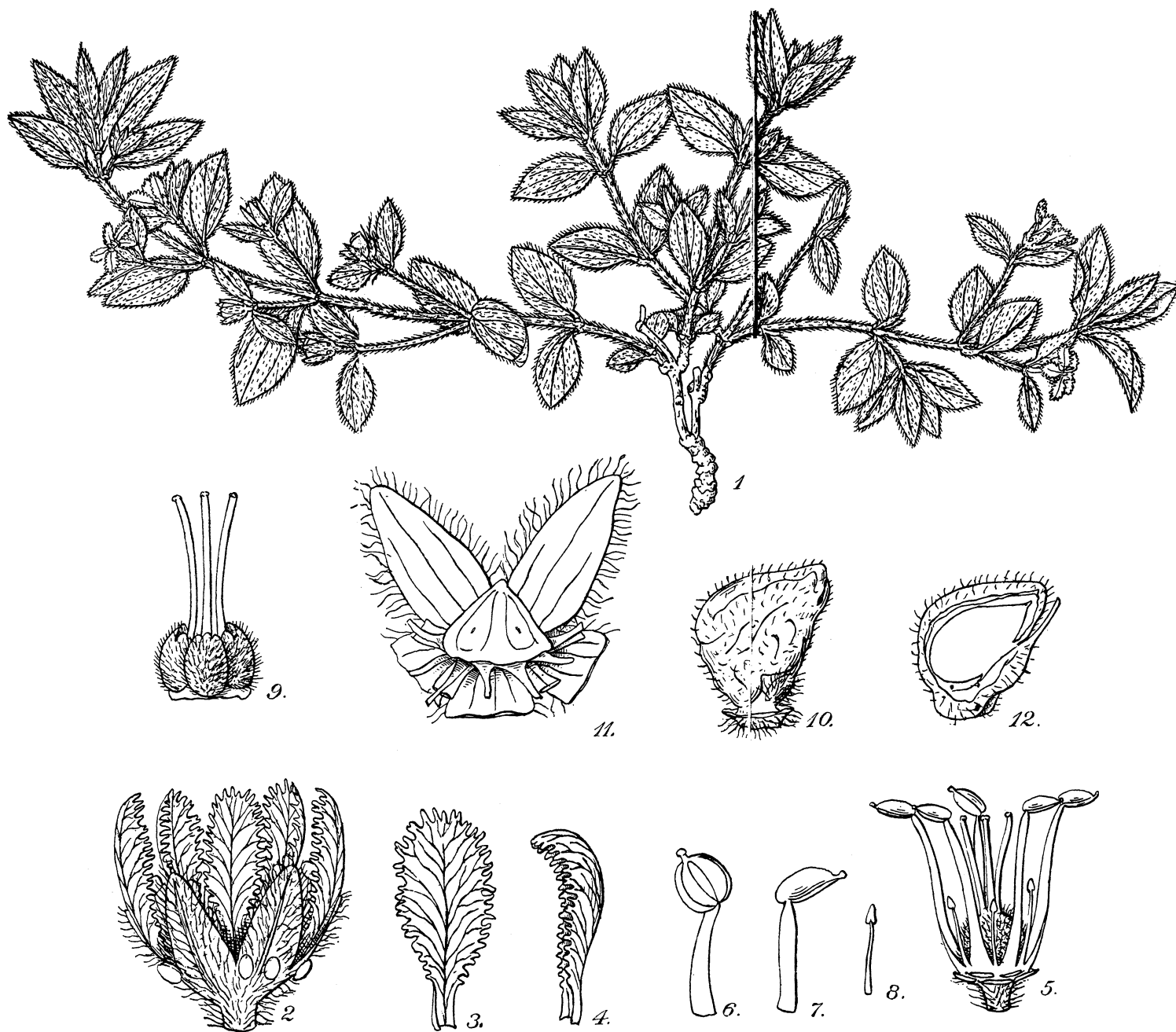
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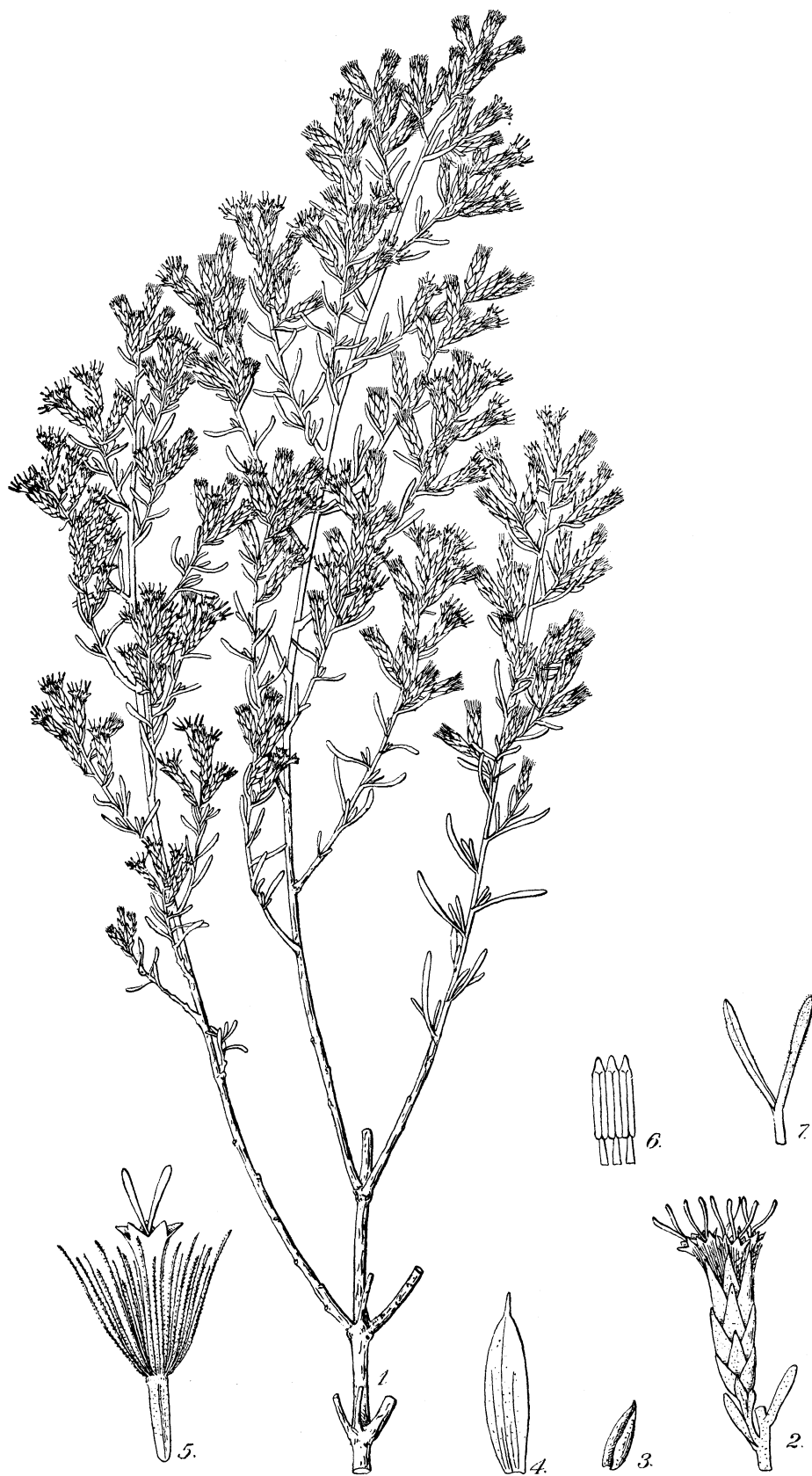
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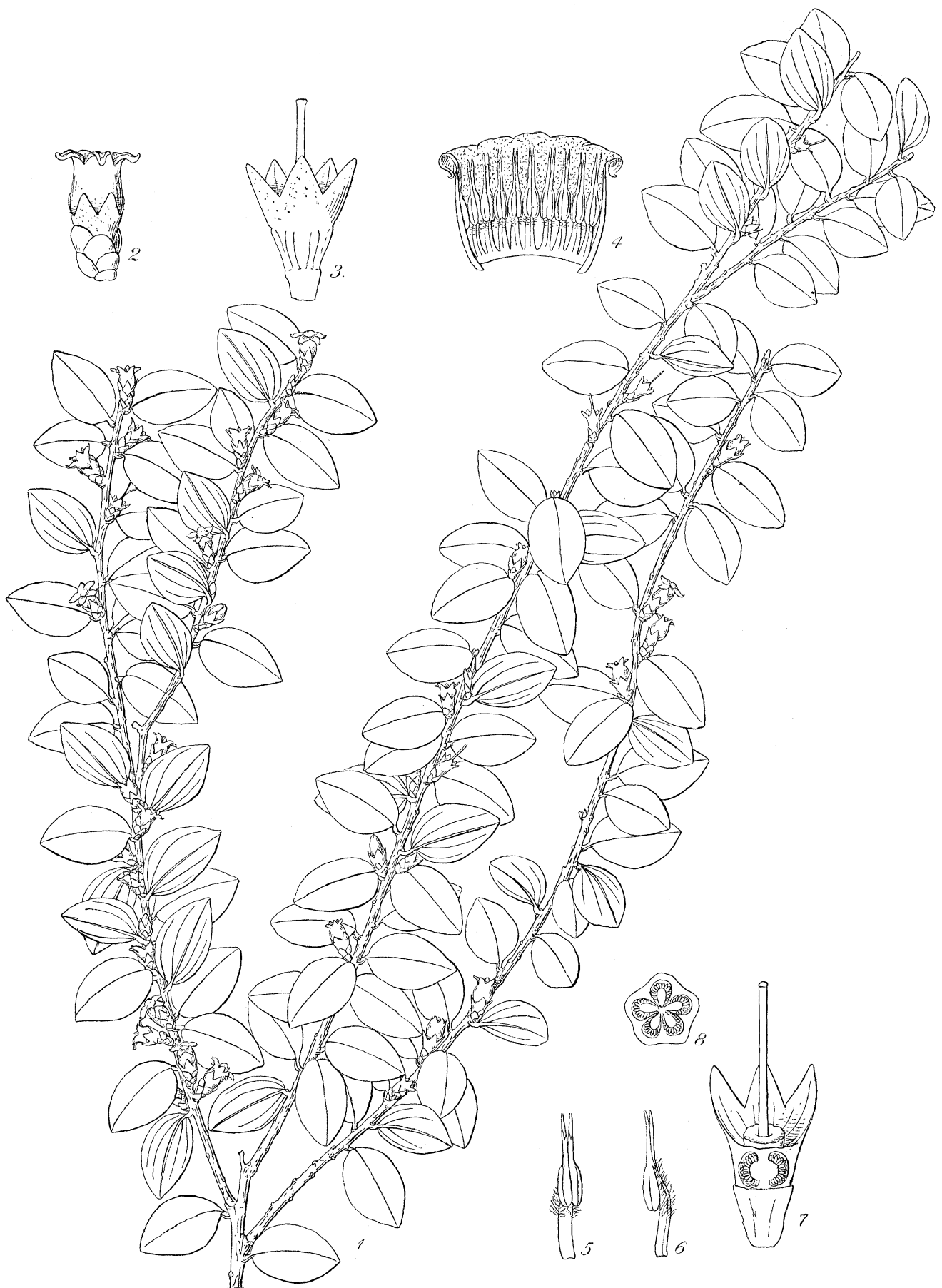
BRITTONELLA PILOSA, RUSBY.



LECANOSPERMA LYCIOIDES, RUSBY.



ADDISONIA VIRGATA, RUSBY.



VACCINIOPSI SOVATA, RUSBY.

## CAREX WALTERIANA.

*C. striata*, Michx. Fl. Bor. Am. ii. 174 (1803), not Gilib. Exerc. Phyt. ii. 550 (1792); Boott, Ill. t. 151 (1858).

Carolina to Florida. Now renamed in memory of Thomas Walter, author of *Flora Caroliniana*, 1788.

## VAR. BREVIS (Bailey).

*C. striata*,  $\beta$  Boott, Ill. 57 (1858).

*C. striata*, var. *brevis*, Mem. Torr. Bot. Club, i. 34 (1889).

New Jersey to North Carolina.

## New Genera of Plants from Bolivia.

BY H. H. RUSBY.

(PLATES CLXVII.—CLXX.)

## MALPIGHIACEÆ.

Of Bentham and Hooker's four tribes of Malpighiaceæ, my first genus differs from the first in its pyramidal torus; from the second in its non-climbing habit, and wingless fruits, combined with two-formed stamens and appendaged anthers; from the third by its wingless fruits and two-formed anthers, and from the fourth by its 10 stamens, those alternate with the petals being the defective ones. Its habit is certainly at agreement with the last tribe, and it would easily pass, without dissection, for a species of *Cama-rea*; but the androecium and general reproductive characters separate it widely therefrom. All things considered it appears most closely related to the first tribe, where I place it, making an exception as to its gynobase, between the genera *Acmanthera* and *Pterandra*.

## BRITTONELLA.

Calyx ample, foliaceous, somewhat accrescent, deeply 5-parted, 8-glandular, the glands ovoid and of medium size. Petals 5, on short claws, concave and incurved, the margins wavy and erose-dentate, in this species at least yellow. Stamens 10, sub-distinct, of 2 forms; those opposite the petals perfect, the filaments stout, dilated downward, glabrous, their anthers affixed at the outer base, partly deflexed, slightly winged at the base and appendaged with

a small point; those alternating similarly formed, but much smaller and apparently imperfect, the anthers scarcely appendaged. Carpels 3, distinct, on a short pyramidal gynobase; ovary pilose, the apex slightly 3-dentate; style ventral, linear, truncate or the stigma slightly capitellate. Nuculæ 2 or even only 1, irregularly triangular-ovate, irregularly 3 cristate at the upper portion and corrugated. Seed (immature) ventrally affixed, ovoid, pointed. Perennial, fruticulose, sub-prostrate, hirsute, with opposite glandless leaves, and small, foliaceous stipules, similar to the leaves. Flowers solitary at the ends of the branches, peduncled.

Dedicated to my distinguished friend, Dr. Nathaniel L. Britton.

B. PILOSA. Suffruticulose, 5–10 cm. high, pilose throughout; root vertical, stout; branches ascending; stipules 2–3 mm. long, 1.5–2 mm. broad, ovate, very acute, foliaceous; petioles scarcely any; leaves .75–1.5 cm. long, .5–1 cm. broad, ovate, acute, the base rounded or subcordate, strongly veiny underneath; flowers about 5 mm. broad, the sepals 4 mm. long, oblong-ovate, the petals somewhat longer; fruit not mature.

Collected near Cochabamba by Mr. Miguel Bang (No. 935).

## RUBIACEÆ.

Its numerous ovules, capsular fruit, solitary flowers, winged seeds, regular corolla, and embryo in albumen, fix my second genus in the Cinchoneæ. There being no proper bud I cannot be sure that the corolla is valvate, though it is apparently so. But the plant apparently has no affinity with any of the genera of the second section, with imbricate or convolute corolla, notwithstanding a certain similarity in habit with two of them. It therefore belongs in the Eucinchoneæ, in which, as shown by its loculicidal capsule and placentæ adnate to the middle of the septum, it is allied to a group of 8 genera, from each of which it is quite distinct in habit and structure. It is most nearly related to *Bouvardia*, and I place it between this and the little known genus *Heterophyllæa*.

## LECANOSPERMA.

Calyx tube ovoid-campanulate, tuberculate, the limb 5-parted, the segments foliaceous and somewhat coriaceous, narrow. Corolla thick and tough, the tube elongated, very slender, the throat slightly dilated and the mouth again slightly contracted, villous within at the anther ring, the limb 5-lobed, the lobes ample, horizontally spreading or recurved. Stamens (dimorphous?) 5, fila-

ments wanting, inserted into the base of the throat, the anthers included, linear oblong, dorsifixed, the base entire. Disk not prominent, fleshy; ovary 2-celled; style filiform, included or barely exerted, the branches 2, linear. Placentæ fixed along the central portion of the septum, the ovules rather numerous in the cells. Capsule globular, costate, the calyx limb imperfectly deciduous, crustaceo-cartilaginous, imperfectly loculicidal, the septum delicate, early separating from the walls to simulate a one-celled capsule. Seeds rather few, peltate, pendulous, imbricated in two ranks in each cell, circular, saucer-shaped, both as to the body of the seed and by the incurved wing. Embryo straight, in semi-corneous albumen, with well-developed caulicle and cotyledons.

A much branched ragged shrub (or tree?) with short spine-like leafy branchlets, the leaves minute, oblong-linear, semi-fleshy, crowded, the stipules obscure, somewhat sheathing.

Named in allusion to the striking saucer-shaped seeds.

L. LYCIOIDES. Bark gray, branches numerous, divergent, very unequal, rigid, leaves 3–5 mm. long, 1–2 mm. broad, on very short petioles, elliptical-oblong, entire, thickish, below granular, roughened, with prominent mid-rib, drying blackish; flowers (color?) terminal, solitary, peduncled; calyx 4 mm. long, the lobes 3 mm. long by .5 mm. broad, strap-shaped, slightly broadened upward, thickish, obtuse, the sinuses open; corolla nearly 2 cm. long, the tube very slender, the spreading limb nearly 1 cm. broad, the lobes broadly ovate, acutish; fruit pendulous on stout, very tough peduncles, globular, light-brown, 6 mm. in diameter, 10-costate; seeds nearly 3 mm. broad, hispid. Collected by Mr. Miguel Bang near Cochabamba (Nos. 1121 and 1122). Distributed as "*Randia*."

#### COMPOSITÆ.

My third genus has the homogamous, tubuliflorous heads, the sub-entire anther base, the sub-terete, obtuse, papillose style-branches, and the setose pappus of the 2d tribe, Eupatoriaceæ. Of its 3 sub-tribes, it has the appendaged anthers and the 5-angled akene of the Agerateæ. The pappus, entirely setaceous and of numerous setæ, exclude it from the 1st group of this sub-tribe. Between the 2d and 3d sections it is difficult to decide, as one of these is described as "*insigniter barbellata*," the other "*breviter barbellata*." On the whole, however, its affinities seem rather with the more strongly barbellate first section, notwithstanding that



Bentham relegated it to the second, as a species of *Eupatorium*. With none of the 6 genera of this first section does it agree. It appears to belong between (64) *Agrianthus* and (65) *Symphypappus*, both Brazilian genera. Its most distinct characters are its spine-tipped involucre scales in 4 strictly vertical ranks, giving a perfectly regular quadrangularly prismatic involucre, and the very unequal rigid purple setæ of the pappus.

#### ADDISONIA.

Head homogamous, tubuliflorate and panciflorate. Involucre narrow, prismatic-quadrangular; scales about 12 to 14, in 4 vertical ranks, the outer successively shorter, the outermost very small, rigid, roughened, strongly keeled, produced into a spine-like tip. Receptacle naked, elevated and prominent as an irregularly and sharply angled body. Corollas equal, tubular, the limb campanulate, its border spreading, strongly 5-toothed. Anthers with obtuse triangular appendages and obtuse, nearly entire bases. Style-branches long, much exserted, obtuse, distinctly dilated upward, papillose. Achenia sharply 5-angled. Pappus wholly of setæ in a single series, easily detached altogether with the disc, 25-30, very unequal, rigid, stout, purple, moderately barbellate.

A tough (glutinous?) shrub, with elongated, appressed, erect-spreading branches; alternate, sessile, very small, linear spatulate, fleshy, papillose leaves, and heads solitary at the ends of abbreviated leafy branchlets, these crowded at the ends of the branches. The involucre, rigid, purple pappus and corolla characters are suggestive of *Stevia*, while the general habit is that of *Ageratella*. Specimens of the same plant, collected by Pearce, in the Kew herbarium are marked by Mr. Bentham "*Eupatorium*," but no species is named.

Genus dedicated to the honored President of the Torrey Botanical Club, Judge Addison Brown.

A. *VIRGATA*. Branches very slender, bright brown, slightly channelled, the internodes shorter than the leaves; leaves 5-12 mm. long, 1-2 mm. broad, linear-spatulate, below narrowed to a petiole-like base, obtusish, very thick, grayish-green, papillose with prominent broad midrib; heads virgately racemed and somewhat secund, at maturity 9 mm. long, 3-3.5 mm. broad. Involucre 6-7 mm. long by 3 mm. broad, regularly tapering to an acute base; the scales rigid, lanceolate boat-shaped, above keeled, with scarious spreading margins and pungently tapering apex, finely several-nerved, papillose; flowers about 5; corolla dull yellowish-white, 5 mm. long, 5-toothed, the teeth spreading, acutish; pappus bright purple,

rather coarse, rigid, shortly barbellate, somewhat flexuose, very unequal, some of the setæ exceeding the corolla; achenia oblong with tapering base, 2 mm. long, brown, sharply ribbed. Collected in Southern Bolivia by Mr. Miguel Bang (No. 868). Perhaps distributed as "Chuquiragua."

#### VACCINIACEÆ.

A conclusion as to the generic rank of my fourth and last plant is not entirely free from doubt, but I cannot conscientiously describe it as a *Vaccinium*, the only genus which it resembles in structure. All generic divisions, both of the Vacciniaceæ and Ericaceæ are perhaps radically wrong. We have either far too many or far too few genera. If as I consider most probable, the present living members of these families represent a vastly greater number of extinct species, then the characteristics of the anthers constitute good generic characters, and many of our sub-genera may properly constitute monotypic or small genera. If on the other hand, these characteristics are trifling, there should be a considerable reduction of the genera. It is greatly to be desired that the paleontology of this group should be studied out.

From *Vaccinium* our plant differs in its absolutely solitary, many-bracted flowers, the pedicel continuous—not articulated—with the calyx, the calyx prismatic, and especially by the entire placentæ.

#### VACCINIOPSIS.

Calyx continuous with the pedicel, the tube turbinate, strongly 5-angled, the limb broadly campanulate, deeply 5-toothed. Corolla scarlet, contracted-campanulate, strongly 5-toothed, the teeth recurved, within lightly pilose. Stamens 10, not coherent, lightly adherent to the base of the corolla, equal and similar, the filaments longish, hirsute and incurved above. Anthers adnate, coarsely pilose, the cells obscurely muticous on the back, each abruptly contracted into a simple, straight, rigid beak which opens on the inner face by an elongated oblique pore. Disk conspicuous, elevated, cylindrical, 10-grooved with concave summit. Style stout, elongated, of uniform thickness, truncate. Ovary lightly 5-lobed, 5-celled, the placentæ 5, strictly simple, from the inner angles, fleshy. Ovules very numerous. Fruit not seen.

A (parasitical ?) shrub, with much elongated, simple, slender branches, alternate, nearly sessile, ovate, 3–5 nerved, fleshy, pale leaves, and solitary, nearly sessile, axillary flowers, the pedicel and calyx-tube clothed with broad, appressed, imbricated scales.

V. OVATA. Branches nearly parallel, 10–30 cm. long, 1–2 mm. thick, channelled, the bark gray or slightly reddish gray, glabrous, the internodes 2–8 mm. long. Petioles 1.5–2 mm. long, nearly as broad, flattened, minutely pubescent. Leaves 2–2.5 cm. long, 1–1.5 cm. broad, ovate or some nearly oval, entire, revolute, the base rounded or very slightly narrowed, the apex with an obscure blunt point, very thick, 2 pairs of strong lateral nerves from near the base, below smooth, above rugose-reticulated; flowers, inclusive of the short concealed pedicel, nearly 1 cm. long; calyx-tube 2 mm. long and broad, the limb 5 mm. broad, its lobes triangular-ovate, acuminate, 2 mm. broad, thick, pale and smooth like the leaves; corolla scarlet, thick, sparsely and very minutely pubescent outside, urceolate, 5 mm. long by 4 mm. broad.

Collected by Mr. Miguel Bang in Southern Bolivia (No. 876).

#### Description of Plates.

##### Plate CLXVII.

*Brittonella pilosa*, Rusby. (1) Typical plant; (2) flower; (3) petal, front view; (4) same, side view; (5) essential organs *in situ*; (6) perfect stamen, showing face; (7) same, side view; (8) imperfect stamen; (9) gynoeceum; (10) immature fruit, side view; (11) pyramidal torns with 2 sepals in background; (12) radial vertical section of fruit.

##### Plate CLXVIII.

*Lecanosperma lycioides*, Rusby. (1) Typical fruiting branch; (2) flower; (3) calyx and pistil; (4) corolla laid open to expose stamens; (5) capsule with portion removed, lateral view of placenta and seeds; (6) same, front view of placenta with seeds; (7) concave face of seed; (8) convex face of seed.

##### Plate CLXIX.

*Addisonia virgata*, Rusby. (1) Typical flowering branch; (2) head in flower; (3) outermost involucre scale; (4) innermost involucre scale; (5) complete flower; (6) 3 of the stamens; (7) style-branches.

##### Plate CLXX.

*Vacciniopsis ovata*, Rusby. (1) Typical flowering branch; (2) flower with bracted pedicel; (3) nude calyx with pistil; (4) corolla laid open to expose stamens; (5) a stamen, face view; (6) the same, side view; (8) transverse section of ovary.